WHAT IS CLAIMED IS

1. A packet communication method of communication employing a packet having a transmission-source address and a destination address, comprising the steps of:

a) making a predetermined number of bits of the transmission-source address and a predetermined number of bits of the destination address of a packet be fixed addresses;

b) a repeating node, which repeats the packet from a transmission-source terminal first, converting the fixed address of the transmission-source address of the received packet into an address of a higher-rank station of said repeating node; and

c) said repeating node converting the fixed address of the destination address of the received packet into an address of a higher-rank station of a last repeating node for a destination terminal, and transferring the packet.

2. The method as claimed in claim 1, wherein the repeating node, which repeats the packet from the transmission-source terminal first, converts the fixed address of the transmission-source address of the received packet into an address of a node having a table of an address of a higher-rank station of a last repeating node

for each terminal, when the address of the higher-rank station of the last repeating node for the destination terminal is not known, and transfers the packet.

3. The method as claimed in claim 2, wherein the node having the table of the address of the higher-rank station of the last repeating node for each terminal converts the own address in the destination address of the received packet into the address of the higher-rank station of the last repeating node for a destination terminal, and transfers the packet.

4. The method as claimed in claim 1, wherein:

the higher-rank station of the repeating node, which repeats the packet from the transmission-source terminal first, transfers the received packet without changing the transmission-source address when the address of the higher-rank station in the transmission-source address of the received packet coincides with the address of the own station, and

converts the address of the higher-rank station in the transmission-source address of the received packet into the address of the own station when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with the address of the own station, and transfers the packet.

5. The method as claimed in claim 4, wherein the higher-rank station of the repeating node, which repeats the packet from the transmission-source terminal first, further instructs the higher-rank station having the transmission-source address originally written in the received packet to transfer a packet addressed to said transmission-source terminal to the own station, when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with the address of the own station, and

further instructs a node having the table of the address of the higher-rank station of the last repeating node for each terminal to update said table.

6. The method as claimed in claim 1, wherein the higher-rank station of the last repeating node for the destination terminal transfers the received packet without changing the destination address, when the address of the higher-rank station in the destination address coincides with the address of the own station and no transfer instructions are given for the destination terminal, and

converts the address of the higher-rank station of the destination address of the received packet into an address of a higher-rank station of the destination of the instructed transfer, when the address of the higher-rank station in the destination address of the received packet coincides with the address of the own station and transfer instructions are given for the destination terminal, and transfers the packet.

7. The method as claimed in claim 1, wherein the higher-rank station of the last repeating node for the destination terminal transfers the packet, when the address of the higher-rank station in the destination address of the received packet does not coincide with the address of the own station,.

8. The method as claimed in claim 1, wherein the last repeating node for the destination terminal converts the addresses of the higher-rank stations in the transmission-source address and destination address of the received packet into the fixed addresses, and transfers the packet to the destination terminal.

9. The method as claimed in claim 1, wherein, in a case where the destination terminal belongs to another network,

the transmission-source terminal transmits the packet having an address given to the destination terminal as the destination address thereof;

the repeating node, which repeats the packet from the transmission-source terminal first, converts the fixed address in the transmission-source address of the received packet into the address of the higher-rank station of said repeating node, and transfers the packet to a gateway station which provides an interface with the other network; and

said gateway station converts the address of the higher-rank station of the received packet into the fixed address, and transfers the packet into said other network.

10. The method as claimed in claim 1, wherein, in a case where the transmission-source terminal belongs to another network,

said transmission-source terminal transmits the packet having an address given to the destination terminal as the destination address thereof; and

a gateway station which provides an interface with said other network converts the fixed address in the destination address of the received packet into the address of the higher-rank station of the last repeating node for said destination terminal, and transfers the packet.

11. A node apparatus used in a packet communication system of communication employing a packet having a transmission-source address and a destination address, comprising:

a repeating part repeating the packet from a transmission-source terminal first, said packet having a predetermined number of bits of the transmission-source address and a predetermined number of bits of the destination address thereof made to be fixed addresses;

an address converting part converting the fixed

address of the transmission-source address of the received packet into an address of a higher-rank station of said node apparatus,

said address converting part further converting the fixed address of the destination address of the received packet into an address of a higher-rank station of a last repeating node for a destination terminal of the packet; and

a transferring part transferring the packet.

12. The node as claimed in claim 11, wherein:

said address converting part converts the fixed address of the transmission-source address of the received packet into an address of a node having a table of an address of a higher-rank station of a last repeating node for each terminal, when the address of the higher-rank station of the last repeating node for the destination terminal is not known; and

said transferring part transfers the packet.

13. A node apparatus used in a packet communication system of communication employing a packet having a transmission-source address and a destination address, comprising:

an address converting part, which has a table of an address of a higher-rank station of a last repeating node for each terminal, converting the own address in the

destination address of a received packet into the address of the higher-rank station of the last repeating node for a destination terminal of said packet; and

a transferring part transferring the packet.

14. A node apparatus used in a packet communication system of communication employing a packet having a transmission-source address and a destination address, comprising:

an address converting part converting an address of a higher-rank station in the transmission-source address of a received packet into an address of the own apparatus when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with the address of the own apparatus, before being transferred through a transferring part; and

said transferring part transferring the received packet without changing the transmission-source address through said address converting part when the address of the higher-rank station in the transmission-source address of the received packet coincides with the address of the own apparatus.

15. The node as claimed in claim 14, further comprising an instructing part instructing a higher-rank station having the transmission-source address originally written in the received packet to transfer a packet

addressed to said transmission-source terminal to the own apparatus, when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with the address of the own apparatus, and

further instructing a node having a table of an address of a higher-rank station of a last repeating node for each terminal to update said table accordingly.

16. A node apparatus used in a packet communication system of communication employing a packet having a transmission-source address and a destination address, comprising:

an address converting part converting an address of a higher-rank station of the destination address of a received packet into an address of a higher-rank station of a destination of instructed transfer, when the address of the higher-rank station in the destination address of the received packet coincides with the address of the own apparatus and transfer instructions are given for the destination terminal, before being transferred through a transferring part; and

said transferring part transferring the received packet without changing the destination address through the address converting part, when the address of the higher-rank station in the destination address coincides with the address of the own apparatus and no transfer instructions are given for the destination terminal.

17. A node apparatus used in a packet communication system of communication employing a packet having a transmission-source address and a destination address, comprising:

a determining part determining whether or not an address of a higher-rank station in the destination address of a received packet does not coincide with an address of the own apparatus; and

a transferring part transferring the packet, when the address of the higher-rank station in the destination address of the received packet does not coincide with the address of the own apparatus as a result of the determination result of said determining part.

18. A node apparatus used in a packet communication system of communication employing a packet having a transmission-source address and a destination address, comprising:

an address converting part converting addresses of higher-rank stations in transmission-source address and destination address of a received packet into fixed addresses; and

a transferring part transferring the packet to the destination terminal.

19. A node apparatus used in a packet communication system of communication employing a packet

having a transmission-source address and a destination address, said node providing an interface between different networks, comprising:

an address converting part converting an address of a higher-rank station of a received packet into a fixed address; and

a transferring part transferring the packet into another network.

20. A node apparatus used in a packet communication system of communication employing a packet having a transmission-source address and a destination address, said node providing an interface between different networks, comprising:

an address converting part converting a fixed address in the destination address of a received packet into an address of a higher-rank station of a last repeating node for a destination terminal of the packet; and

a transferring part transferring the packet.

21. A packet communication system of communication employing a packet having a transmission-source address and a destination address, comprising:

a transmission-side terminal making a predetermined number of bits of the transmission-source address and a predetermined number of bits of the

destination address of a packet be fixed addresses; and

a repeating node, which repeats the packet from said transmission-source terminal first, converting the fixed address of the transmission-source address of the received packet into an address of a higher-rank station of said repeating node,

said repeating node converting the fixed address of the destination address of the received packet into an address of a higher-rank station of a last repeating node for a destination terminal, and transferring the packet.

22. The system as claimed in claim 21, wherein said repeating node, which repeats the packet from the transmission-source terminal first, converts the fixed address of the transmission-source address of the received packet into an address of a node having a table of an address of a higher-rank station of a last repeating node for each terminal, when the address of the higher-rank station of the last repeating node for the destination terminal is not known, and transfers the packet.

23. The system as claimed in claim 22, wherein the node having the table of the address of the higher-rank station of the last repeating node for each terminal converts the own address in the destination address of the received packet into the address of the higher-rank station of the last repeating node for a destination

terminal, and transfers the packet.

24. The system as claimed in claim 21, wherein:

the higher-rank station of the repeating node, which repeats the packet from the transmission-source terminal first, transfers the received packet without changing the transmission-source address when the address of the higher-rank station in the transmission-source address of the received packet coincides with the address of the own station, and

converts the address of the higher-rank station in the transmission-source address of the received packet into the address of the own station when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with the address of the own station, and transfers the packet.

25. The system as claimed in claim 24, wherein the higher-rank station of the repeating node, which repeats the packet from the transmission-source terminal first, further instructs the higher-rank station having the transmission-source address originally written in the received packet to transfer a packet addressed to said transmission-source terminal to the own station, when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with the address of the own station, and

further instructs a node having the table of the address of the higher-rank station of the last repeating node for each terminal to update said table.

26. The system as claimed in claim 21, wherein the higher-rank station of the last repeating node for the destination terminal transfers the received packet without changing the destination address, when the address of the higher-rank station in the destination address coincides with the address of the own station and no transfer instructions are given for the destination terminal, and converts the address of the higher-rank station of the destination address of the received packet into an address of a higher-rank station of the destination of the instructed transfer, when the address of the higher-rank station in the destination address of the received packet coincides with the address of the own station and transfer instructions are given for the destination terminal, and transfers the packet.

27. The system as claimed in claim 21, wherein the higher-rank station of the last repeating node for the destination terminal transfers the packet, when the address of the higher-rank station in the destination address of the received packet does not coincide with the address of the own station.

28. The system as claimed in claim 21, wherein the last repeating node for the destination terminal converts the addresses of the higher-rank stations in the transmission-source address and destination address of the received packet into the fixed addresses, and transfers the packet to the destination terminal.

29. The system as claimed in claim 21, wherein, in a case where the destination terminal belongs to another network,

the transmission-source terminal transmits the packet having an address given to the destination terminal as the destination address thereof;

the repeating node, which repeats the packet from the transmission-source terminal first, converts the fixed address in the transmission-source address of the received packet into the address of the higher-rank station of said repeating node, and transfers the packet to a gateway station which provides an interface with the other network; and

said gateway station converts the address of the higher-rank station of the received packet into the fixed address, and transfers the packet into said other network.

30. The system as claimed in claim 21, wherein, in a case where the transmission-source terminal belongs to another network,

said transmission-source terminal transmits the packet having an address given to the destination terminal as the destination address thereof; and

a gateway station which provides an interface with said other network converts the fixed address in the destination address of the received packet into the address of the higher-rank station of the last repeating node for said destination terminal, and transfers the packet.